RECLAMATION
Managing Water in the West

Environmental Assessment

Recreational Improvements at East Park Reservoir - Orland Project

EA-15-03-NCAO

U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region

March 2015

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitment to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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List of Acronyms and Abbreviations

APE	Area of Potential Effect
BMPs	Best Management Practices
CCWD	Colusa County Water District
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Colusa County
DGC	Disc Golf Course
Delta	Sacramento San Joaquin Delta
District	Colusa County Water District
EA	Environmental Assessment
EPR	East Park Reservoir
ESA	Endangered Species Act
ITA	Indian Trust Assets
LZ	Landing Zone
MBTA	Migratory Bird Treaty Act
NCAO	Northern California Area Office
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
Reclamation	Bureau of Reclamation
RMP	East Park Resource Management Plan
USGS	United States Geological Survey

Section 1 Introduction

1.1 Background

East Park Dam, which forms East Park Reservoir (EPR), is part of the Orland Project located in Colusa County, California (Figure 1.1). Completed in 1910, the dam stores irrigation waters diverted and impounded from Little Stony Creek, Squaw Creek, and Little Indian Creek. East Park Reservoir is 2.7 miles long and encompasses 1,820 acres. The reservoir has a total capacity of 52,000 acre-feet. There are 25 miles of shoreline, ten miles of which are available for public use.

In 2004 the Bureau of Reclamation prepared a Resource Management Plan (RMP) for EPR (Tetra Tech 2004). This document was created in accordance with the Reclamation Management Act of 1992 and Reclamation's 2000-2005 Strategic Plan to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. In addition, the RMP was crafted to be compatible with authorized project purposes of irrigation water storage.

In late 2013, Colusa County (County) entered into a reservoir-area specific Management Agreement (No 13-LC-20-0442) consistent with the goals and objectives of the RMP to serve as a cost share partner for recreational development at EPR. In this role, the County would assist Reclamation (and the Orland Unit Water Users' Association) in the administration, operation, and maintenance of recreation and related improvements and facilities at EPR.

To this end, and in accordance with the Management Agreement and associated goals and objectives of the RMP, the County and Reclamation are proposing to enhance the land-based recreational activities at EPR. Specifically, the enhancements would include an 18-hole disc golf course (DGC) on the eastern side of EPR and a non-motorized aircraft landing zone (LZ) on the westerns side of EPR. This Environmental Assessment (EA) has been prepared to examine the potential direct, indirect, and cumulative impacts of allowing these activities at EPR.

1.2 Need for the Proposal

The purpose of the Proposed Action is to create the opportunity for a higher quality experience for the average user at EPR. It is intended to draw people to EPR to share in the natural resources and increase the value of the experience at EPR. This is particularly true since 2014, when entry fees to EPR were initiated, whereas in prior years there was no entry fee.

1.3 Scope

This EA analyzes the direct, indirect, and cumulative effects to the environment from the Proposed Action and No Action Alternative. The geographical extent of the Proposed Action includes two separate parcels of land at EPR where the proposed recreational enhancements would occur (Figure 1.1). The temporal extent of the Proposed Action is primarily limited to the construction phase scheduled to occur in the summer/fall of 2015.

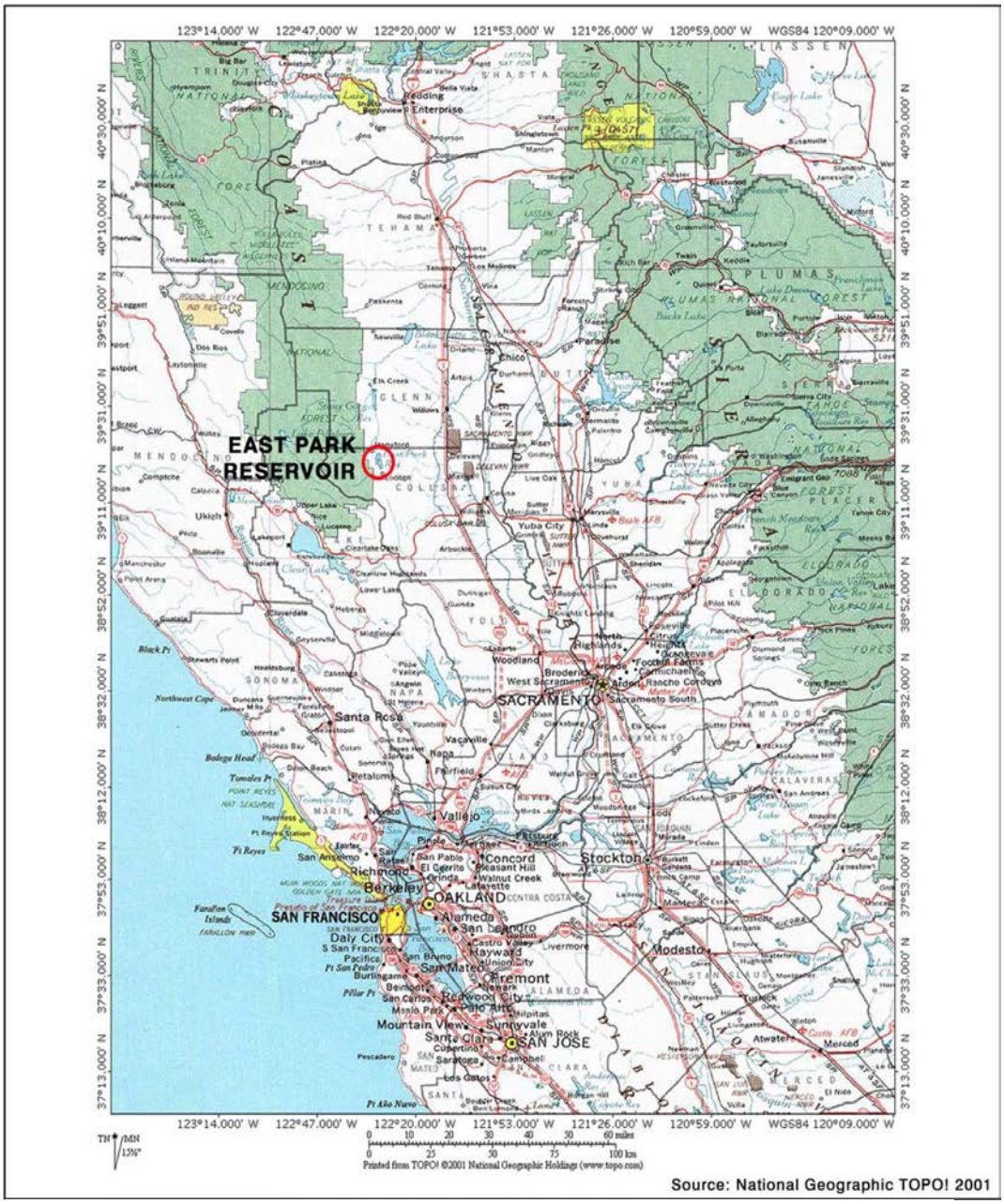

Figure 1-1. East Park Reservoir Regional Location.

Section 2 Alternatives Including Proposed Action

2.1 No Action Alternative

The No Action Alternative would consist of Reclamation not allowing the development of a disc golf course or non-motorized aircraft landing zone at EPR.

2.2 Proposed Action Alternative

The Proposed Action would allow development of an 18-hole DGC and a non-motorized aircraft LZ at EPR (Figure 1.1). Development of these areas would occur during the late summer or early fall of 2015, details of each are provided below.

2.2.1 Disc Golf

The 18-hole DGC would be established on a 50-acre parcel along the eastern side of EPR (Figure 2-1). At this time, the course layout has not been defined; however, considerations in the layout would include positioning of tees, baskets (pins), and main trails (or fairways) to minimize interaction with other course participants, vehicle traffic, and unique natural resources of the area (also see Section 2.2.3).

Once the course layout has been determined, construction would begin. This would entail installing a tee pad and a metal basket for each of the 18 holes. Each tee pad would be comprised of cement or recycled rubber with dimensions recommended for the terrain available; the minimum rectangular size is 4 feet wide by 10 feet long (PDGA 2014). Small gas/diesel powered equipment (backhoe or similar equipment) would be used to contour/ level each tee prior to covering the tee with the chosen overlayment material, as well as other duties. If cement is chosen, temporary form boards would be installed and the cement would be hauled or pumped to the tees. In contrast, if rubber pads are used they would be anchored with spikes spaced adequately to ensure a durable and secure surface.

Installation of the metal baskets would entail hand-boring a 2-foot deep hole and concreting the 2-inch basket support tube. Signage posts would also be installed at each tee to direct players to the layout of the hole and the course. As with the baskets, the signage post holes could be created with a backhoe or hand tools and they would be cemented to a depth of 2 feet.

No formal adjustments to the landscape are anticipated for each fairway, which represents an intermediary area of play between the tee and the pin. Vegetation maintenance of the fairways and around tees and baskets is anticipated to occur infrequently. Historical grazing practices of this area would continue that would help reduce vegetation within and outside the area to assist in fire fuels management of the area. In addition, mechanical control of vegetation in the fairways could be used to help direct foot traffic to designated areas in certain years or seasons, depending on vegetation growth patterns. Mechanical vegetation control would be limited to times when the park was open for use, typically from April through September.

Following completion, the environmental conditions of the course would be monitored at least once a year to identify any impact to natural resources such as unforeseen erosion, litter removal, etc. Corrective measures would be taken, as needed, to ensure the course is maintained in an operable and environmentally friendly state.

2.2.2 Landing Zone

The landing zone (LZ) for non-motorized aircraft would be established on a 46-acre parcel on the western side of EPR (Figure 2.1). This site was selected because it provides good access for aerial enthusiasts who fly from the mountain range to the immediate west of EPR (e.g. Potato Hill). In addition this site has the following attributes:

1. it provides a relatively large flat open-space landing zone for safe landings,
2. it is adjacent to East Park Road, providing close and convenient parking access; and
3. it is adequately distant from camping and picnic areas to avoid potential conflicts between different user groups.

Development of this site would primarily entail establishment of a rock-based parking lot (approx. dimensions 95 feet by 140 feet or 0.3 acres) in the northwest corner of the parcel adjacent to East Park Road (See Figure 2.1). The parking lot area is presently delineated by posts and cables and receives moderate vehicular traffic throughout the year. No excavation of the existing terrain is anticipated and only minor grading with heavy equipment would be used to spread and compact up to 250 cubic yards of road base or equivalent materials that would serve to create the 4-inch to 8-inch base and surface of the parking area. Transport of these materials to the work site would use transfer load dump trucks traveling on existing paved County roads and gravel roads within the EPR area. An earth-tone colored sign would be cemented in place in the parking area to reflect the area's designated use and any rules and regulations.

Annual maintenance is expected to be minor with periodic mechanical vegetation control of the preferred landing area within this parcel, which is mainly comprised of annual grasses. As with the DGC, historic cattle grazing would continue on this parcel for fire fuels management purposes.

2.2.3 Environmental Commitments

Implementing the Proposed Action would also include a variety of environmental commitments to limit the impacts these additional recreational developments may have on the natural environment at EPR.

- Surveys of the DGC and LZ areas would be conducted in the early spring to inventory rare plant species and their locations in proximity to the proposed recreational areas. Doing so would provide the opportunities to protect any species or habitats prior to development. Protections could include avoidance and isolation of these areas and use of signage to educate members of the public regarding these species.
- Best Management Practices (BMPs) would be instituted before, during, and following the construction activities at each parcel (Appendix A).

- Annual surveys will be conducted at each of the recreational areas to identify any areas of unexpected natural resources impacts. Corrective measures would be implemented, as needed, to maintain the site for its intended use while protecting the natural resources at EPR.
- Mechanical vegetation control would be used sparingly with avoidance of special status native rare plant species or other unique natural resources.

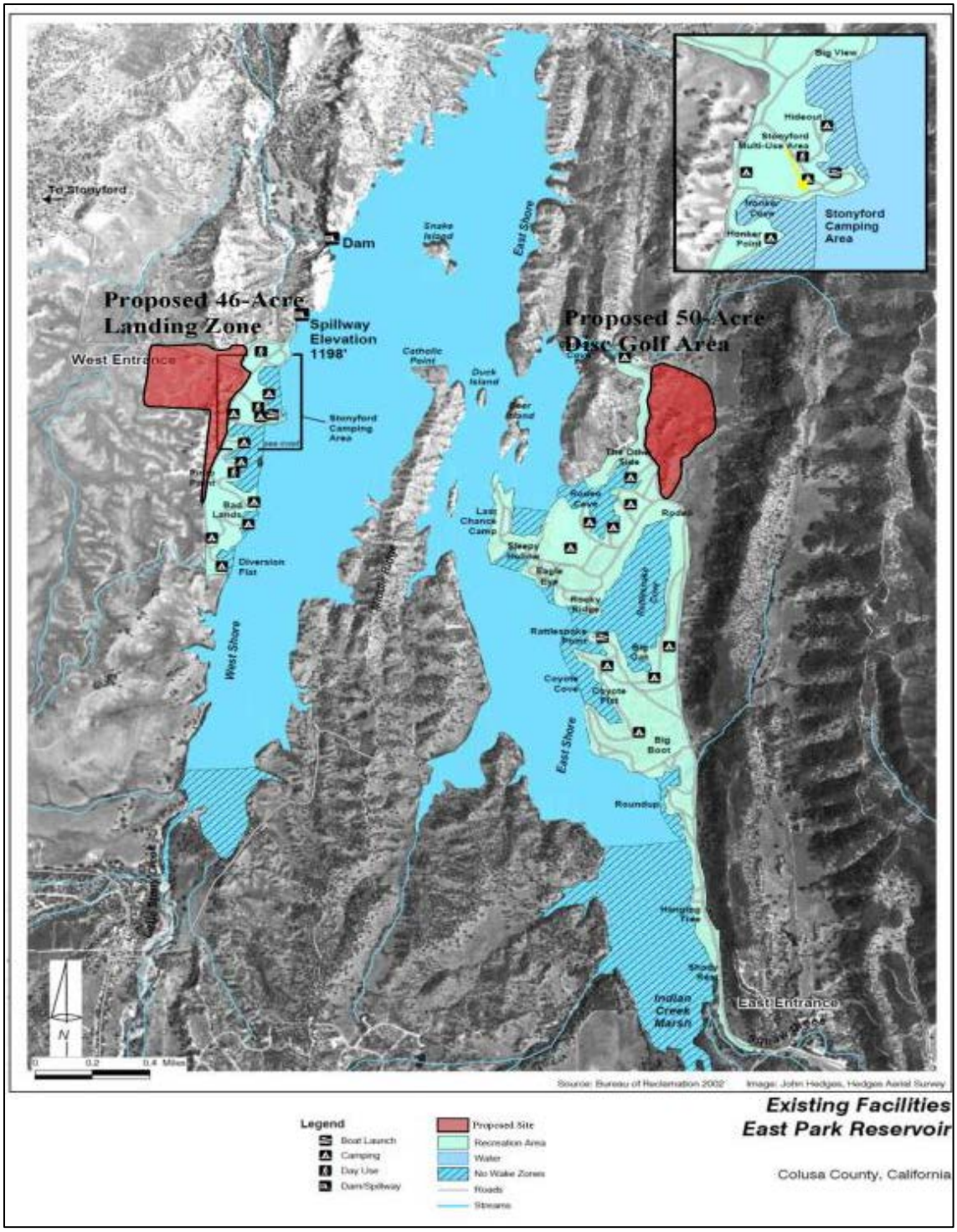

Figure 2-1. Existing Facilities and Proposed Recreational Development Areas at East Park Reservoir (image adapted from Tetra Tech 2004)

Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environmental resources and the environmental consequences that could result from the Proposed Action and the No Action Alternative. Resource areas potentially influenced by the Proposed Action follow.

3.1.1 Resource Areas Not Analyzed in Detail

Reclamation analyzed the affected environment and determined that the Proposed Action does not have the potential to cause direct, indirect, or cumulative adverse effects to the following resource areas:

- **Water Resources:** Water resources would not be affected by the Proposed Action. Only minor quantities of water may be used to temporarily treat fugitive dust to maintain air quality during gravel placement for the LZ.
- **Cultural Resources:** The Proposed Action would not involve physical changes to the environment or construction activities that could impact cultural resources. As a consequence, Reclamation has determined that these activities have no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1). See Appendix B for Reclamation's determination.
- **Indian Sacred Sites:** The Proposed Action would not limit access to ceremonial use of Indian Sacred Sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites; therefore, there would be no impacts to Indian Sacred Sites as a result of the Proposed Action.
- **Indian Trust Assets:** The Proposed Action would not impact Indian Trust Assets as there are none in the Proposed Action area. See Appendix C for Reclamation's determination.
- **Socioeconomic Resources:** The Proposed Action would have beneficial impacts on socioeconomic resources because it would provide two unique recreational developments that are likely to draw additional visitors to EPR.
- **Environmental Justice:** The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease, nor would it disproportionately impact economically disadvantaged or minority populations. The Proposed Action would provide greater recreational potential at EPR for no additional costs to entry.
- **Air Quality:** Construction activities of the Proposed Action would not cause significant air quality impacts because fugitive dust associated with the parking lot development for the LZ would be limited to a short period of time (perhaps a few weeks at the most) and minimized by applying water to deter fugitive dust.

3.2 Land and Recreational Use

3.2.1 Affected Environment

The total land area around EPR, defined as being within Reclamation's jurisdiction but not including the reservoir, totals 2,468 acres. Rural housing and sparse community related development are on the south side of the reservoir. Public use of the land is generally confined to areas near the water, and there is little to no upland use (Tetra Tech 2004). The majority of use occurs during the formal opening of the park to vehicular traffic from approximately April 15 through September 30, but these dates can vary depending on weather.

The parcels being considered for the DGC and LZ are presently used for cattle grazing under a lease agreement with Reclamation. These lease agreements allow cattle grazing from November 01 through April 14. The purpose of allowing grazing on these parcels is because it represents a permitted historic use consistent with the RMP that provides wildfire fuels management benefits.

Both areas are adjacent to gravel/dirt road systems at EPR allowing for easy access. The entire outside boundary of the DGC parcel is defined by a campground access road. The LZ area is bound on the north by East Park Road, the east by reservoir access roads and camping/day use areas, and the south and west by private land that is also used for cattle grazing.

3.2.2 Environmental Consequences

- **No Action:** Under the No action alternative, these developments would not occur and the existing land use practices would continue.

- **Proposed Action:** Under the Proposed Action the development of the LZ and DGC would allow the primary land use activity of grazing to continue while also allowing recreation to occur on the same parcels. Allowing these activities to co-occur would provide unique recreational opportunities in areas that are not presently used for recreation. Furthermore, it is believed that providing these new facilities would improve the value in visiting EPR, in particular because a user-fee will likely be required for day use and camping beginning in the spring of 2015.

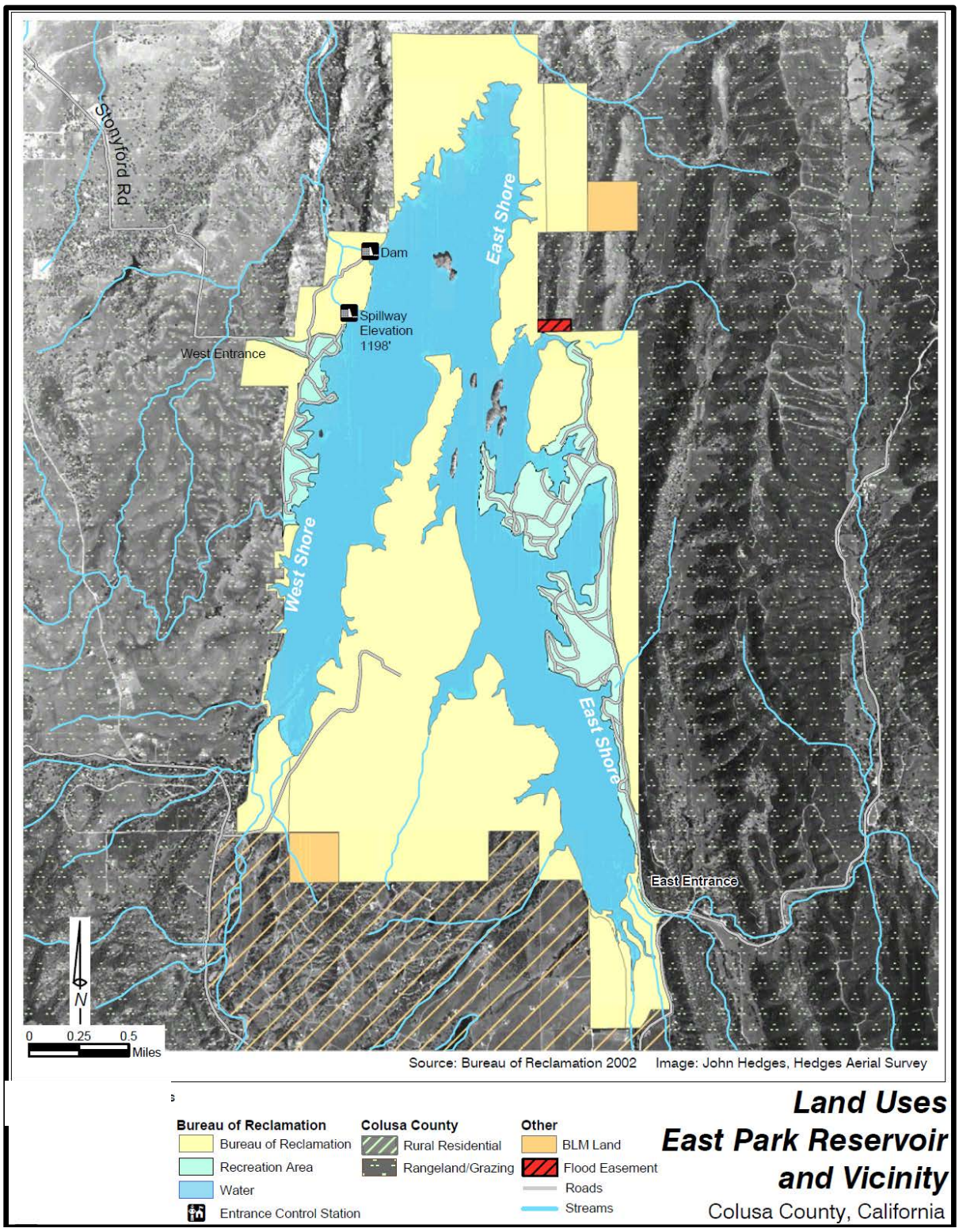

Figure 3-1. Land Ownership and Uses at East Park Reservoir (image adapted from Tetra Tech 2004)

This change would not substantially affect the grazing lease contract acreage; however, there would be a minor reduction in range area available at the LZ (0.3 acres) and a very minor amount at the DGC (~ 0.02 acres). As a result, any existing or new contracts may need to be changed to reflect any acreage reductions.

No conflicts with cattle grazing and proposed recreational activities are anticipated. This is mainly because the permitted cattle grazing period is from early-November to mid-April, which represents a time when the park is formally closed to vehicular traffic and thus a low likelihood that recreation would occur during the same time. Furthermore, if recreationalists chose to walk in to use the DGC, there is a low probability of conflict because the new development areas are quite small compared to the total areas available for grazing.

3.3 Biological Resources

3.3.1 Affected Environment

Both land parcels considered for recreational development are comprised of mainly grassland with clusters of mature valley oaks scattered throughout (Figure 3-2). Tetra Tech (2004) classified the area considered for the DGC to represent both chaparral and distributed woodland type habitats. They did not classify the LZ area but based on aerial photos it appears to also be primarily grassland with distributed woodland type habitat. Extensive cattle and sheep grazing over the past century has reduced the quantity and diversity of native grasses, has allowed for the spread of introduced weedy varieties, and has limited the regeneration of native valley oak (in many areas at EPR [Tetra Tech 2004]). Under the Proposed Action cattle grazing would continue to be allowed at each of the recreational developmental areas.

Rare Plants

In spite of past management and land use at EPR, vegetation surveys conducted by the California Native Plant Society in 2003 suggest several species of rare native plants likely exist on the east and western sides of the EPR (Tetra Tech 2004)(Table 3-1).

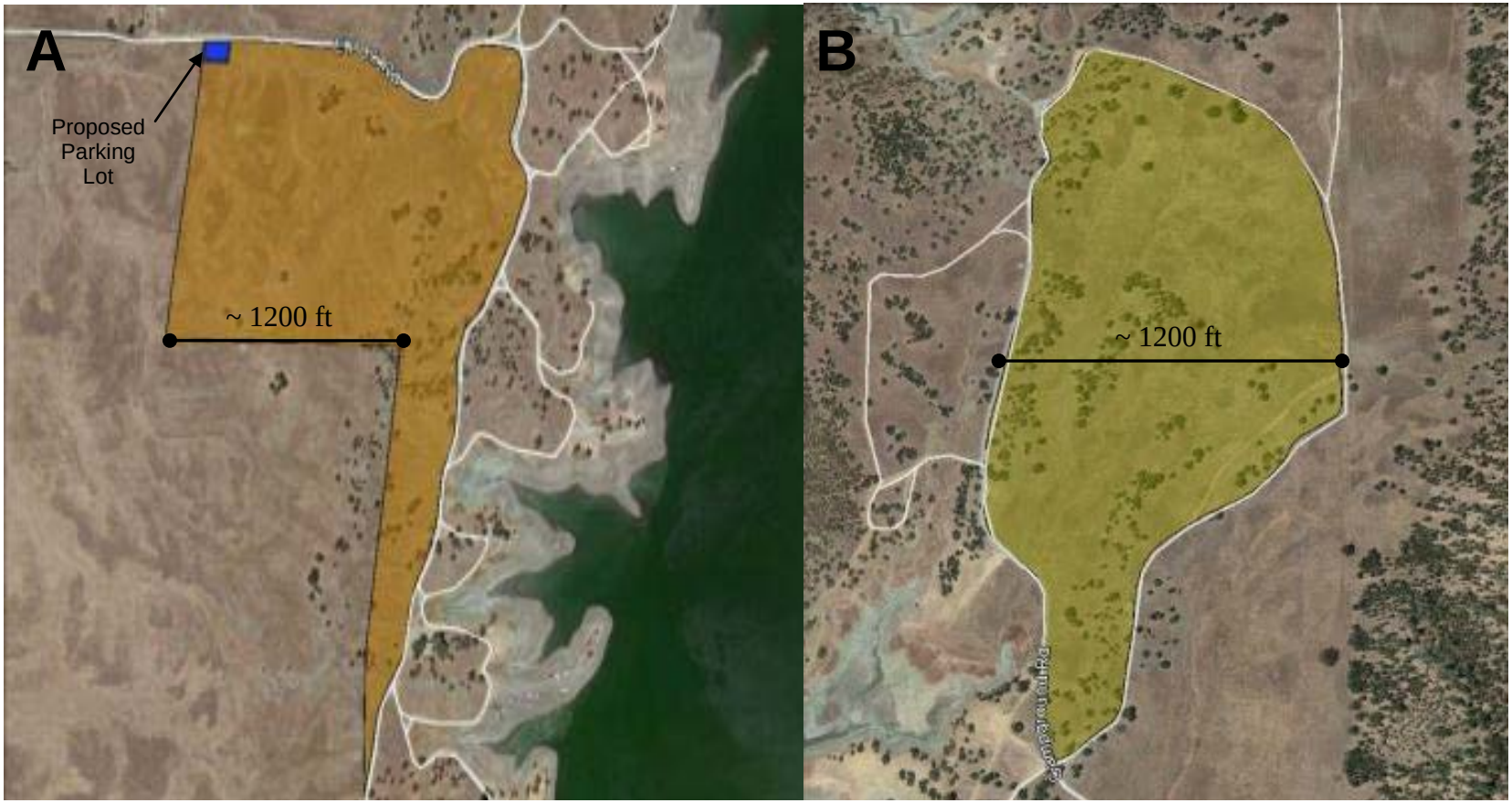

Figure 3-2. Distribution of grassland, oak woodlands (dark spots on the landscape) and roadways in parcels considered for the landing zone (A) and the disc golf course (B). Note: scales differ between images.

Table 3-1. Sensitive plant species within the boundaries of the recreation area of East Park Reservoir. Species were identified by the California Native Plant Society.

Common Name	Scientific Name	Status (CNPS)
Adobe lily	*Fritillaria pluriflora*	1B
Brandegee's woolly star	*Eriastrum brandegeae*	1B
Colusa layia	*Layia septentrionalis*	1B
Green monardella	*Monardella viridis ssp. viridis*	4
Hogwallow starfish	*Hesperevax caulescens*	4
Hoover's lomatium	*Lomatium hooveri*	4
Jepson's navarretia	*Navarretia jepsonii*	1B
Red-flowered lotus	*Lotus rubriflorus*	1B
Source: WRE and GANDA 2003 (as cited in Tetra Tech 2004); Key: 1B=Rare or endangered in California and elsewhere 4=Plant of limited distribution		

Potential Federally Listed Species in the Proposed Action Area

A list of federally-listed candidate, threatened, and endangered species that may occur within the Project Area and /or may be affected as a result of the Proposed Action was obtained on June 10, 2014, by accessing the California Natural Diversity Database (Rarefind 5) and the U.S. Fish and Wildlife Service's online database (http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-form.cfm). Table 3-2 provides a list of species from these database searches, their status, the determination of effects from the Proposed Action, and a summary of the rationale supporting the determination.

3.3.2 Environmental consequences

- **No Action:** Under the No Action, biological resources would not change from their current condition.

- **Proposed Action:** Under the Proposed Action rare plant species would not be impacted by these developments. Field surveys would be conducted during the spring to determine the presence of rare native plant species listed in Table 3-1. If any of these species are found within the subject parcels, this information could be used to guide the layout of the DGC or adjust the parking lot size or its placement at the LZ. In addition, any populations found would be protected from further development or future recreational activities. Protection could be in the form of exclusionary fencing and signage.

There would be no federally-listed animals affected by implementing the Proposed Action because the development areas do not constitute habitat for any of these species nor have they been found in these areas (see Table 3-2)

Table 3-2. Federal and State-Listed Species That occur in USGS 7.5-minute Quads - Gilmore Peak, and Lodoga. Sources: the California Natural Diversity Database and the U. S. Fish and Wildlife websites.

Species	USGS Quad [3]	Status[1]	Effects[2]	Summary Basis for ESA Determination
AMPHIBIANS				
California red-legged frog (*Rana draytonii*)	G, L	T	NE	The proposed action area does not constitute habitat for this species. No change to wetland or riparian habitat would occur. Species has not been observed in these quads.
BIRDS				
Northern Spotted Owl (*Strix occidentalis caurina*)	G, L	F(T)	NE	No land use changes would occur to habitat for this species. Species has not been observed in areas subject to high human use.
FISH				
Central Valley steelhead (*Oncorhynchus mykiss*)	G, L	T, X	NE	No natural water ways within the species' range will be affected by the proposed action.
Chinook salmon - Central Valley spring-run (*O. tshawytscha*)	L	T, X	NE	No natural water ways within the species' range will be affected by the proposed action.
Chinook salmon - Sacramento River winter-run (*O. tshawytscha*)	L	E, X	NE	No natural water ways within the species' range will be affected by the proposed action.
Delta smelt (*Hypomesus transpacificus*)	G, L	T	NE	No natural water ways within the species' range will be affected by the proposed action.
INVERTEBRATES				
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	G, L	T	NE	No land use changes would occur to habitat for this species.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	G, L	T, X	NE	No land use changes would occur to habitat for this species.

Species	USGS Quad [3]	Status[1]	Effects[2]	Summary Basis for ESA Determination
Vernal pool tadpole shrimp (*Lepidurus packardi*)	L	E	NE	No land use changes would occur to habitat for this species.
PLANTS				
Keck's checker-mallow (*Sidalcea keckii)*	G, L	E	NE	Absent: species is limited to Fresno/Tulare Counties, which are located south of the Delta (Daniel Russell, USFWS email, June 9, 2014)
REPTILES				
Giant garter snake (*Thamnophis gigas*)	L	T	NE	No land use changes would occur to habitat for this species. Species not observed at any locations within these quads.

1 Status= Listing of Federal special status species, unless otherwise indicated.
E: Listed as Endangered.
T: Listed as Threatened.
X: Critical habitat designated
2 Effects =
NE = No Effect determination.
3. USGS Quads where this species could be present (G – Gilmore Peak, L – Lodoga)

Construction activities associated with development of the DGC and LZ would also be guided by BMPs (Appendix A) to minimized impacts to the non-listed species of the biological community. These activities would only impact native wildlife on a temporary basis because the development activities are in short duration and would occur during the summer months

It is anticipated that seasonal soil compaction at the DGC would be most pronounced at tee and pin areas where players would most predictably travel; however, this impact is not anticipated to be significant as there would be several months of the year where these areas would only receive light use or none at all, allowing these areas to recover toward the pre-Project condition.

Similarly, no significant impacts to the natural resources are anticipated for the LZ. It is anticipated that the types of aircraft that will use this area will result in minimal to no impact at all. These aircraft are non-motorized and therefore do not present a risk for fuel and oil spillage and are light enough to maneuver by hand so only minor impacts to the ground surface are likely.

No significant long-term impacts are anticipated from implementing the Proposed Action. This is because annual monitoring of the environmental conditions at these locations will be used to identify developing problems and corrective measures which may be needed to ensure environmental harm is minimized. This monitoring program would be most important in future years when peak use of these newly developed areas occurs.

3.4 Visual Resources

3.4.1 Affected Environment

East Park Reservoir is located between the Coastal Range Mountains to the west and the foothill range of the Sacramento Valley on the east. Small, quaint towns are found nearby and add to the relatively undeveloped visual character of the area.

The area within the boundaries of East Park is a matrix of rolling grasslands, oak and pine woodland, and the reservoir itself. Gravel and dirt roadways branch out from both the east and west side entries with those comprised of a gravel base leading to the campground areas that are in close proximity to the water. Dirt roadways are present throughout the areas, largely a result of unconfined and non-regulated vehicle movements. These areas also include restroom facilities, vehicle control barriers, cement picnic benches, and signs throughout the area. In all, the structures and signage is typical of park-like settings, blending into the surroundings reasonably well.

The uplands areas outside of the existing recreational areas are used for bird watching, wildflower viewing, nature hikes, wildlife watching and photography (Tetra Tech 2004). These areas are for the most part free of man-made objects except for fence lines exposing property line delineations.

The proposed recreational developments would occur in a transition area between the reservoir-side camping areas and the upland habitats along roadways that would afford easy access to the amenities of the new developments.

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative the LZ and DGC would not be developed and visual resources would remain the same as in the existing conditions.

Proposed Action

Under the Proposed Action, the visual resources would not be impacted significantly. The addition of the parking lot and signage for the LZ would be adjacent to the existing main entrance road from the Stonyford side of the EPR. In addition, the LZ would be outside of the typical recreational area and would not likely be seen from the reservoir camping areas.

As with the LZ development, the impacts to visual resources at the DGC area would not be significant. This development would be in close proximity to existing roads and the new facilities (e.g. tee pads, baskets and signage) would be close to the ground and not be highly visible; these structures would be of adequate size to meet their intended purpose but small enough and of appropriate color to not be seen from a distance. Additionally, no large trees would be removed and only minor mechanical vegetation control would be used when EPR is opened, typically April 15 through September 30.

3.5 Federal Migratory Bird Treaty Act (MBTA) (16 USC §§ 703 – 712)

The MBTA prohibits the take, harm, or trade of any migratory bird species and requires that all agencies must have a policy in place to prevent harm to such species as a result of that agency's actions. For federal agencies, this policy is covered by completion of a Memorandum of Understanding (MOU) with the USFWS, which is the agency charged with administering and enforcing the MBTA.

Migratory birds would not be impacted by the Proposed Action because the construction activities would fall outside of the breeding season and the areas are highly disturbed by traffic during the core summer months that would preclude their use.

3.6 Cumulative Impacts

There are no other known past, present, or reasonably foreseeable actions that would cumulatively result in significant impacts to the human environment when taking into consideration the actions analyzed in this EA. However, as in other parts of California, the rural area that surrounds EPR will become increasingly vulnerable to development pressures over time.

Section 4 Consultation and Coordination

4.1 Endangered Species Act (16 U.S.C. 1521 et seq.)

Reclamation determined that the Proposed Action would have no effect on federally proposed or listed threatened and endangered species or their proposed or designated critical habitat. Therefore, no consultation was required under Section 7 of the ESA.

Section 5 References

PDGA 2014. Professional Disc Golf Association Disc Golf Course Design Recommendations, March 2014, 4 pp. (http://www.pdga.com/files/PDGA%20Course%20Design%20Guides%20March%202014.pdf)

Tetra Tech 2004. Final East Park Reservoir Resource Management Plan and Environmental Assessment. Prepared for U.S Department of Interior, Bureau of Reclamation, Northern California Area Office, Shasta Lake, California 96019

Water Resources Engineering, INC. (WRE) and GARCIA and Associates (GANDA). 2003. Final Report Special Status Species Surveys for the East Park Reservoir in Colusa County, CA.

Appendix A. BMPS for Construction Activities. Provided by Colusa County.

Colusa County Heavy Equipment Operations
Best Management Practices

General Operations

- Schedule excavation and grading work during dry weather
- Use as little water as possible for dust control.

Vehicle and Equipment Maintenance

- Maintain all vehicles and heavy equipment.
- **Inspect frequently for leaks.**
- Conduct all vehicle/equipment maintenance and refueling at one location - away from storm drains.
- Perform major maintenance, repair jobs and vehicle/equipment washing off-site.
- Use gravel approaches where truck traffic is frequent to reduce soil compaction and limit the tracking of sediment into streets.
- Use drip pans or drop cloths to catch drips and spills. Do not use diesel oil to lubricate equipment or parts

Clean Up

- Sweep up dry spilled materials immediately. Never attempt to bury them or "wash them away" with water.
- Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- Report significant spills to the appropriate spill response agencies immediately.
- Clean up leaks, drips, and other spills immediately.
- Never hose down "dirty" pavement or surfaces where materials have spilled.

Appendix B. Cultural Resource Review (forth coming)

Appendix C. Indian Trust Assets Determination (forth coming)